

**CLAIMS**

1. A message broker for transmitting message from a first client system to a second client system, the message broker comprising at least one message  
5 channel, a first channel adapter and a second channel adapter,  
the first channel adapter being operable to;  
receive a message from the first client system encoded in an Internet  
protocol and comprising content information and destination information,  
read the destination information from the message, and send a push  
10 request to place the message in a message channel corresponding to the  
destination information,  
the second channel adapter being operable to;  
receive a message request from the second client system encoded in an  
Internet protocol and comprising source information  
15 read the message request and identify a message channel corresponding  
to the source information,  
send a pull request to the message channel, and  
generate a response accordingly.
- 20 2. A message broker according to claim 1 wherein the second channel  
adapter is operable to generate a response comprising a time out response if no  
message is placed in the channel within a predetermined time period.
3. A message broker according to claim 1 or claim 2 wherein, when a  
25 message is placed in the channel, the second channel adapter is operable to  
generate a response comprising at least the content information.

4. A message broker according to any one of the preceding claims wherein the second channel adapter is operable to generate a response encoded in an Internet protocol format.
- 5 5. A message broker according to any one of the preceding claims wherein the first channel adapter and the second channel adapter are each implemented by a servlet.
- 10 6. A message broker according to any one of the preceding claims comprising an address information store wherein channel information corresponding to at least one of the destination information and source information is stored.
- 15 7. A message broker according to any one of the preceding claims comprising a bi-directional communication link, the message broker comprising two message channels, each channel comprising a first channel adapter and a second channel adapter, such that the message broker is operable to transmit messages from the first client to the second client system using one of the channels and from the second client system to the first client system using the  
20 other of said channels.
8. A message broker according to claim 7 wherein the first channel adapter of one of the channels and the second channel adapter of the other of the channels are provided by a common combined channel adapter module.
- 25 9. A message broker according to any one of the preceding claims wherein the message and the request are encoded in HTTP format.

10. A message broker according to claim 9 wherein the message comprises a HTTP POST request.
11. A message broker according to claim 9 or 10 wherein the message  
5 request comprises a HTTP GET request.
12. A transmission module operable to transmit a message from a first client system to a message broker for receipt by a second client system, the transmission module being operable to  
10 receive message information comprising content information and destination information corresponding to a message channel,  
generate a message comprising the message information encoded in an Internet protocol format, and  
transmit the message to a message broker for retrieval by the second  
15 client system from the message channel
13. A transmission module according to claim 12 wherein the message is encoded in HTTP format and transmitted to the message broker using a HTTP POST request.  
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14. A client system provided with a transmission module according to claim 12 or claim 13 and a firewall, wherein the message is permitted to pass the firewall.
- 25 15. A receiver module for a second client system, operable to retrieve a message comprising content information from a message broker sent by a first client system, the receiving module being operable to;  
receive a message request comprising source information corresponding to a message channel

generate a message request encoded in an Internet protocol format in accordance with the source information,

transmit the message request to the message broker,

receive a response from said message broker in accordance with the

5 message request, and

generate an output.

16. A receiver module according to claim 15 wherein, where the response comprises a time out response, the receiver module is operable to generate an  
10 output comprising re-transmitting the message request to the message broker.

17. A receiver module according to claim 15 or claim 16, wherein where the response comprises a message, the receiver module is operable to generate an  
output comprising the content information.

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18. A client system comprising a receiver module according to any one of claims 15 to 17 and a firewall, wherein the message request and the response are permitted to pass the firewall.

20 19. A client system according to claim 18 wherein the message request and response are encoded using HTTP format and wherein the message request comprises an HTTP GET request.

20. A communication system comprising a message broker according to any  
25 one of claims 1 to 8 and at least one of a client system according to claim 13 or claim 14 and a client system according to claim 18 or claim 19.

21. A message system according to claim 20 wherein the message broker and at least one client system are connected via the Internet.

22. A method of transmitting messages from a first client system to a second client system comprising the steps of

5 receiving a message from the first client system encoded in an Internet protocol format and comprising content information and destination information corresponding to a message channel,

reading the destination information,

10 sending a push request to place the information in a message channel corresponding to the destination information, receiving a message request from the second client system encoded in an Internet protocol format and comprising source information corresponding to the message channel,

reading the message request to identify the message channel corresponding to the source information,

15 sending a pull request to the message channel, and

generating a response accordingly.

23. A method of transmitting a message from a first client system to a message broker for retrieval by to a second client system comprising the steps of;

20 receiving message information comprising destination information corresponding to a message channel and content information,

generating a message comprising the content information and destination information encoded in an Internet protocol format, and

transmitting said message to a message broker.

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24. A method of monitoring a message broker for a received message for a second client system from a first client system comprising the steps of;

receiving a request comprising source information corresponding to a message channel,

generating a message request encoded in an Internet protocol format in  
accordance with the source information,  
transmitting said message request,  
receiving a response from the message broker in accordance with the  
5 request, and  
generating an output in accordance with the response.